

TRADOC PAMPHLET 525-200-3

AD-A283 267



DISMOUNTED BATTLESPACE



94-25623



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US ARMY BATTLE DYNAMIC CONCEPT

1 JUNE 1994

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FOREWORD

The changing world environment has resulted in a change in the National Military Strategy (NMS). This has led to a new visionary concept for the Army of the Twenty-First Century, "Future Full Dimensional Operations" (December 1993). This vision incorporates the changes in threat, advances in technology, the adoption of a power projection strategy and corresponding changes in the conduct of battle. These changes, combined with an understanding of history, influence a new doctrine—a doctrine for Full Dimensional Operations. While the driving forces behind change will continue to be dynamic, the fundamental character of war and its human dimension, the moral domain, will remain unchanged.

Battlefields of the future will be characterized by fast moving forces with unprecedented lethality. Real-time information will be required to develop intelligence and synchronize the employment of forces and systems to destroy the enemy's capability to wage war. Improved sensors will find, identify and accurately locate targets in depth. Increasingly lethal weapons will engage enemy forces, operating at a much faster tempo than we have known before. They will overwhelm and destroy the enemy around the clock in all types of weather and terrain.

The dynamics of battle that are evolving require that our forces, operating as an integrated part of joint, combined and/or coalition forces, have the capability of dominating any battle space, region or situation. Quick and decisive results are achieved through the conduct of simultaneous and continuous operations in depth. To achieve decisive results, future Army commanders, at all echelons, must be able to apply all available combat power to dominate their battle space. The concept of battle space facilitates the type of innovative and imaginative approach to warfighting required of leaders on future battlefields. This concept is not confined by time, boundaries, graphics, countermeasures, or other physical and intellectual constraints.

In the physical sense, battle space is that volume of the battlefield determined by the maximum capabilities of a unit to acquire and engage the enemy with both organic and supporting systems. The size, shape, and density of a given unit's battle space, as it applies to both mounted and dismounted forces, is variable dependent upon mission, enemy, terrain, time, and troops available (METT-T) and level of command. In terms of density, the battle space concept is in part based on the historical progression towards an increasingly dispersed force on the battlefield. The continuing reduction of numbers of soldiers, through changes to doctrine or technology, will allow mission success in a given battle space at reduced risk. Battle space is influenced by tactical, operational, and strategic level of war considerations.

The concept of battle space goes beyond the three dimensional geographic space of width, depth, and height. It is an important mental construct that involves the ability to visualize enemy and friendly activity. It embraces a holistic view of the entire range of possible conditions and available options that impact on the commander's ability to successfully execute his mission. Within their battle space, commanders need to understand the effects of geography and terrain; they must develop expertise in the use of their capabilities and ways to counter enemy capabilities; and they must adapt to changing circumstances.

Commanders seek to dominate the enemy within their battle space, producing decisive results with minimum loss of life. Using weapon systems with greater lethal reach than those of potential adversaries, commanders will be able to mass effects with increasingly dispersed forces. This application of force will paralyze any enemy, denying him any opportunity to respond effectively, and lead to decisive victory. Domination of battle space must be a prime consideration in the development of future doctrine, training, organizations, material, and command and control procedures.

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Military Operations

DISMOUNTED BATTLE SPACE BATTLE DYNAMIC CONCEPT

Summary. This pamphlet serves as the basis for developing doctrine, training, leader development, organizations, and materiel changes focused on soldiers (DTLOMS) requirements and solutions for operations within dismounted battle space. It provides the framework to understand dismounted battle space and the required capabilities for U.S. Army and allied/coalition forces to dominate that battle space.

Applicability. This concept applies to all TRADOC activities which develop DTLOM requirements and products.

Suggested improvements. The proponent of this pamphlet is the Deputy Chief of Staff for Combat Developments. Send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) through channels to Commander, TRADOC, ATTN: ATCD-P, Fort Monroe, VA 23651-5000. Suggestions may also be submitted using DA Form 1045 (Army Ideas for Excellence Program (AIEP) Proposal).

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DISMOUNTED BATTLE SPACE Battle Dynamic Concept

Chapter 1 Introduction

1-1. Purpose. This pamphlet identifies capabilities required for conducting operations within dismounted battle space at the operational and tactical level, throughout the range of military operations, in support of the National Military Strategy (NMS).

1-2. References.

- a. FM 100-5 (Operations).

b. TRADOC Reg 11-16 (Development and Management of Concepts).

c. TRADOC Pam 525-5 (Full Dimensional Operations). (To be published.)

d. TRADOC Vision of Future Battle, 23 Sep 93.

1-3. Explanation of abbreviations and terms.

Abbreviations and special terms used in this concept are explained in the glossary.

Chapter 2

Overview

2-1. Why the concept is needed. Dismounted battle space includes the three-dimensional geographic space in which light, airborne, air assault, special operations, and dismounted elements of armored task forces operate. Recent experience in Operations Urgent Fury, Just Cause, Desert Storm, and Restore Hope demonstrated the deployability of forces operating in dismounted battle space in support of the NMS. These operations included both warfighting and operations other than war.

a. Operation Desert Storm demonstrated the vulnerability of our highly deployable forces against an armored or mechanized threat. Our forces must have the capability to see and hear first, to gain critical information, dominate the maneuver battle, and win decisively while minimizing friendly casualties. This requires forces possessing lethality, mobility, and agility greater than future adversaries. They must also have increased survivability against current and future threat weapons and munitions and the capability to anticipate and sustain operations under the most adverse conditions. This will support decisive operations in combat or missions conducted during operations other than war.

b. Forces must also possess command, control, communications, computer, and information capabilities that enable the tactical level commander to incorporate information from echelons above brigade required to win the "information war". These capabilities enable our forces to rapidly gain control of the situation, protect the force, and accomplish the mission throughout the entire range of military operations.

2-2. Threat. The emergence of regional threats, seeking to expand their influence by force at the expense of their neighbors, and regional instability will pose challenges to United States' interests.

a. These challenges will range from a low end, low intensity conflict to a high end, high intensity conflict. While some of these powers have large and modern conventional military forces, others possess only basic and rudimentary conventional equipment. In a worst case scenario, they may possess armored, mechanized, and airborne formations equipped with technologically advanced systems comparable or superior to our own.

b. An adversary's possession of weapons of mass destruction, chemical and biological systems, advanced sensor and intelligence gathering capabilities, ballistic missiles, viable naval and air forces, and sophisticated special operations forces could challenge our ability to terminate a conflict swiftly and on favorable terms. Likewise, a tenacious and determined adversary with limited equipment, but operating in formidable terrain and a friendly environment, could have a similar effect.

c. Regional challenges may often confront our Army with an adversary whose system of beliefs interprets differently such fundamental ideas as right and wrong, the value of human life, and the concept of victory and defeat. What appears fanatical to us may be completely rational to our opponent. Understanding these cultural and ethnic differences is critical to establishing the military conditions necessary to achieve national goals.

2-3. Force Projection Army.

a. Power projection is a central element of our National Military Strategy. It describes the ability of our nation to apply all or some of the elements of national power—political, economic, informational, or military—to respond to crises, contribute to deterrence, and enhance regional stability. The U.S. Army contributes to this strategy through force projection. Force projection entails a demonstrated ability to rapidly alert, mobilize, deploy, and conduct military operations ranging from war to operations other than war anywhere in the world. Properly equipped and supported tailored task forces which combine lethality, survivability, and sustainability, are essential to successful force projection operations for warfighting and operations other than war.

b. Forces operating in dismounted battle space will not operate alone for prolonged periods except in highly specified situations, but they must be prepared for that contingency. Operations will be conducted under the command of unified commanders. The Commander-in-Chief (CINC) of the unified command will plan and execute campaigns or operations within his area of responsibility. These operations will normally be joint and will oftentimes involve combined and/or coalition forces. Compatibility of friendly forces is key to the success of the CINC's campaigns and operations.

2-4. Limitations.

a. Laws and international agreements. U.S. national policies and laws, existing treaties and agreements, and international law impact on the use of U.S. military forces either unilaterally or as a combined or coalition operation.

b. Congressional and Domestic support. Committing U.S. forces risks national prestige and support of the public. Total commitment of the American people must be attained—with clearly defined and obtainable goals and objectives that are understood prior to the commitment of forces. This total commitment includes the National Guard and Reserve forces. These forces must be trained and ready to enter any conflict as the need arises.

c. Although the concept provides insights into operations conducted by forces operating in dismounted battle space in operations other than war, it ultimately focuses on and must be oriented to the worst case scenario—war. Warfighting capabilities normally provide the resources to execute missions in operations other than war.

Chapter 3

Concept

3-1. Overview.

a. Operations within dismounted battle space are conducted to project force in support of National Military Strategy. These operations may be operations other than war or combat operations. Operations supported include both the deployment and employment of brigade and below task forces.

(1) Task forces are generally deployed within the early entry dynamic and employed within the battle space dynamic.

(2) Forces operating in dismounted battle space include all dismounted elements, whether on the ground or part of an armored force. These forces are organized into combined arms task forces with combat, combat support, and combat service support capabilities tailored for the specific combat or operation other than war mission.

(3) Generation of overmatching combat power by forces operating in dismounted battle space is essential to decisively defeat enemy forces during combat. The ability to rapidly deploy and gain control of the situation is required to accomplish the mission during operations other than war.

b. Operations within the dismounted battle space dynamic are supported by other battle dynamic concepts during war and operations other than war.

(1) The battle command concept focuses on the capability to conduct combat operations without being fixed geographically in command posts. The integration of near real time intelligence and target acquisition information allows the tactical commander to operate at a higher tempo than his adversary.

(2) The depth and simultaneous attack concept focuses on the simultaneous engagement of enemy forces throughout the depth of the battlefield. This concept relates to dismounted battle space when deep attacks are conducted simultaneously with the close battle. Attack in depth prevents the massing of enemy forces against friendly forces operating in dismounted battle space.

(3) The early entry lethality and survivability concept focuses on gathering information and intelligence to increase the versatility of an early entry force. Early entry operations may be forced entry or unopposed entry operations. This concept allows the force to fight its way in, fight simultaneously with deploying forces, and fight after deployment. This concept supports the deployment of forces into dismounted battle space for combat operations as well as operations other than war.

(4) The combat service support concept focuses on versatile logistics at all levels with near total asset visibility and split based operations capability. This concept provides forces operating in dismounted battle

space the support required at echelons above brigade to conduct combat operations and operations other than war.

(5) The mounted battle space concept focuses on heavy task force capabilities which include engagement of the enemy outside his engagement range, both day and night, by massing effects with increasingly dispersed forces. This concept complements dismounted operations primarily by focusing on the use of armored forces to defeat potential adversaries within a commander's battle space.

3-2. Concept description.

a. Dismounted battle space refers to the three-dimensional geographic space in which light, airborne, air assault, special operations, and dismounted elements of armored task forces operate. It is dynamic in that it also includes the dimension of time. Dismounted battle space defines the commander's concept of using the assigned area of operation to every possible advantage to—

(1) Detect the enemy and assess the situation.

(2) Engage him beyond ranges where he is able to counter.

(3) Conduct vertical envelopment.

(4) Cover and assign responsibilities for gaps resulting from non-contiguous operations.

(5) Maneuver the enemy into a position from which he can neither fight effectively nor escape.

b. Dominating ones battle space requires a keen eye for terrain, an understanding of friendly individual soldiers' abilities and capabilities, understanding of the enemy, and an ability to assemble an array of capabilities resulting in overwhelming combat power. Dismounted battle space uses terrain, including natural and man-made obstacles, to the best possible advantage. Obstacles are integrated into the maneuver plan and synchronized with the terrain and weather to support decisive operations at the best time and place.

c. Rapid expansion of friendly battle space is critical to success. This expansion is achieved through manned and unmanned target acquisition, robust command and control, and precision direct and indirect fire capabilities. The task force commander engages the enemy with a variety of the warfighting systems, attacking deep and close simultaneously. The enemy is forced to fight multiple threats concurrently. The effects of simultaneous attacks throughout the depth of the battlefield overwhelms the enemy and results in his decisive defeat. Expanding the commander's battle space achieves many advantages.

(1) Destruction of enemy forces is accomplished before they can effectively engage friendly forces.

(2) Friendly force vulnerability is reduced by increasing the dispersion of the friendly force.

(3) The use of a base of fire at extended ranges increases the ability to maneuver.

(4) The maneuver commander's flexibility is enhanced through the capability to conduct operations at a faster tempo than enemy forces.

(5) In operations other than war, the expansion of battle space allows the commander to complete his mission with greater situational awareness for increased force protection.

d. Battle space should not be viewed only in terms of direct and indirect fire engagements. Gaining critical information early expands battle space by providing the commander the tools required to visualize the battlefield. Using these tools, the commander can visualize enemy and friendly activity over the entire range of possible conditions and available options that impact on successful mission execution. The ability to see, jam, report, obstruct, and deny enemy maneuver, while facilitating friendly mobility and agility, are examples of the commander's ability to affect operations. Battle space then becomes a function of the commander's ability to gain critical information, analyze, synchronize, integrate, and employ all of his war fighting systems to achieve the correct balance necessary for success.

e. Dismounted battle space is extended through increased acquisition of enemy forces and increased lethality and survivability of dismounted forces. Overmatches in the elements of combat power—maneuver, firepower, protection, and leadership—are essential for maintaining the edge against potential adversaries.

(1) Forces operating in dismounted battle space must have overmatching maneuver capabilities. Enhanced mobility of forces operating in dismounted battle space is achieved through high tempo, around the clock, all weather, air and ground continuous operations.

(a) Continuous operations for dismounted forces is achieved through lightening the soldier's load and increasing his ability to overcome terrain and obstacle restrictions, as well as optimizing performance of equipment and humans.

(b) Mobility increases must occur while increasing both lethality and survivability.

(c) The use of the mobility differential provided by Army and joint and combined forces lift and cargo aircraft, enhances the task force commander's ability to conduct both combat operations and operations other than war within dismounted battle space.

(d) The capability to obtain, analyze, and develop critical information, through manned and unmanned sensors, in near real time increases tempo and facilitates operations. Acquisition of near real time information is achieved through rapidly processing data and intelligence obtained at national through individual soldier levels. This includes the transmission of digitized data and battlefield information both vertically and horizontally.

(2) Firepower of forces operating in dismounted battle space includes both direct and indirect fires.

Direct fires must overmatch an enemy opponent in range, target acquisition, and munitions. Indirect fires must provide the ability to mass effects while maintaining dispersion.

(a) The use of enhanced fire control, target acquisition systems at national through soldier level, digital communications, and precision munitions will provide the overmatch.

(b) The key to expanding battle space in the area of firepower is through near real time sensor to shooter linkages. This linkage is made possible through the fusion of intelligence data, the determination of targets, and the assignment of targets to appropriate weapons systems via digital communications networks. This gives the tactical commander the ability to engage the enemy before the enemy can acquire him with organic and supporting systems. It also allows the commander to exploit the advantages gained in the deep fight.

(c) A subset of direct fire is mine warfare. Advanced technology-smart and intelligent mines must attack and disrupt enemy forces and prevent the enemy's ability to counter them.

(d) Supporting systems include army aviation, echelon above brigade fire support, and joint and coalition fire support assets.

(3) Force protection is a critical element in maintaining combat power and is essential in both war and operations other than war.

(a) Key to force protection is finding the opponent and determining his intent through the use of the entire spectrum of intelligence assets. Dismounted forces must win the reconnaissance battle. The use of Reconnaissance, Surveillance, and Target Acquisition (RSTA) sensors, manned and unmanned, combined with fusion of intelligence, protects the force and enhances firepower and maneuver.

(b) Counter RSTA actions must include use of passive measures, directed energy, and electronic counter measures as well as lethal attack.

(c) Protection of forces operating in dismounted space also includes air defense, counter battery fires, nuclear/chemical/biological detection and defense, combat identification, and individual protection.

(d) Digitization of command and control systems within dismounted battle space is essential for vertical and horizontal situational awareness.

(e) Passive force protection measures include low observable technology and conventional and multi-spectral camouflage.

(f) Active measures may include enhanced armor or ballistic protection, deception techniques, and fighting position enhancements for the dismounted soldier, his weapon systems, and logistics.

(g) The commander must have the ability to anticipate threats and counter with overwhelming firepower should it be necessary for protection of forces or civilians.

(4) Leadership is key to the synchronization and integration of battlefield functional areas within dismounted battle space.

(a) Leaders must understand the time dimensions of combat to gain time, seize the initiative, dictate terms of close combat, achieve depth in maneuver, and impose their will on the enemy.

(b) They must have the ability to develop a holistic view of the entire range of possible conditions and available options that impact on successful mission execution.

(c) In operations other than war, leaders must not only understand the application of combat power. They must also understand the impact of their actions as they relate to national objectives. Leadership is the crucial factor in gaining control of the situation, seizing the initiative, and rapidly accomplishing the mission while protecting the force.

3-3. Required capabilities.

a. Increased lethality. Systems must provide over matching lethality against current and future systems of potential adversaries. Lethality must be enhanced in terms of firepower and maneuverability. Firepower includes the use of both direct and indirect fires.

(1) The capability to engage moving and stationary targets with both direct and indirect fire is required.

(2) Targets include personnel, thin-skinned vehicles, bunkers, armor, fixed and rotary wing aircraft and indirect fire systems.

(3) Increased target acquisition capability, to include information awareness and intelligence awareness, enhanced ammunition, leap ahead ballistics technology, directed energy technology, and advanced fire control will extend direct fire.

(4) Smart and intelligent mines will provide a wide area stand-off attack capability, be capable of autonomous operation, and function as a sensor for target acquisition.

(5) Indirect fires will use improved munitions, enhanced fire control, and precision guided munitions.

b. Increased target acquisition. Forces operating in dismounted battle space require the capability to access the full spectrum of intelligence information. This includes the capability to collect, analyze, produce, and disseminate timely intelligence data.

(1) Required intelligence data includes indicators and warnings, situational awareness (enemy and friendly) system targeting, and targeting development. This provides a key element in force protection.

(2) The capability to provide the dismounted force with information on drop zones and landing zones as well as post strike assessment/battle damage assessment is critical.

(3) Systems must provide vertical and horizontal, near real time, target acquisition information

throughout the task force. This is key to the ability to mass the effects of fires without massing forces.

(4) Extended range, all spectrum target acquisition will enhance capabilities of individual soldiers, vehicular weapons platforms, and indirect fire systems. Target acquisition systems must provide the capability to have near real time sensor to shooter linkages which incorporate both brigade and below systems and echelon above brigade systems, including systems of other services, national level systems, and those of coalition forces.

(5) The task force commander must have the ability to plan and control the sensor to shooter linkages to effectively extend his battle space.

(6) Improved day/night all weather optics, target location/tracking, auto tracking capabilities, combat identification, point and shoot, acquisition range, and full solution fire control are required to enhance weapons effect on targets.

c. Increased survivability with weight reduction. Survivability measures must allow forces operating in dismounted battle space to be rapidly deployable and lethal while minimizing casualties. Survivability enhancements are required for both individual soldiers and vehicle platforms. The capability to field more survivable systems with weight reduction will increase the mobility and deployability of forces operating in dismounted battle space. Both passive and active measures are required capabilities.

(1) Passive capabilities include survivability against ballistic, directed energy, electromagnetic, extreme environmental conditions, and non-battle injuries.

(2) Active capabilities include timely intelligence, extended target acquisition and engagement, combat identification, low observables, combat life saving, battle injury treatment and prevention, non-battle casualty prevention, and veterinary services.

(3) Survivability improvements will focus on countermeasures and new, lighter weight, stronger materials to replace heavier armor.

(4) Lighter weight power sources will be required for both individuals and vehicle systems.

(5) Signature reduction (visual/thermal/acoustic/radar sensory) technology and low observable technology, with conventional and multi-spectral camouflage will be used to counter enemy target acquisition capabilities.

d. Increase command tempo and control. Battle command systems must provide horizontal and vertical command and control capability in near real time enabling forces to operate at faster tempo than the enemy.

(1) The capability to gather, analyze, and disseminate information on both friendly and enemy forces from multiple sources is required.

(2) Near real time data fusion capability and software commonality are essential technology needs.

(3) The capability to conduct automated planning and rehearsal, split based C4, situational awareness, and logistics support.

(4) Systems must be digitized and capable of linking all battlefield elements from the individual soldier through the brigade level. They must also provide linkage to systems above brigade including joint, national and coalition systems. These systems must provide vertical and horizontal information linkages with the capability to process information to prevent information overload.

(5) Lighter weight, smaller communication and integrated personal computer equipment will be required to reduce soldier and vehicle loads while maintaining secure communications and information flow.

e. Enhanced mobility. Mobility must be sufficient to allow the force to negotiate natural and man made obstacles without a reduction in momentum.

(1) Mobility will be increased through the capability to detect, identify, and breach or bypass natural or man-made obstacles.

(2) Forces operating in dismounted battle space require the capability to have high mobility in close terrain, restrictive terrain, and during airborne, air assault, and waterborne operations.

(3) The capability to operate continuously is essential. Increased and enhanced mobility will be gained through the reduction of systems/vehicle weight, improved vehicular design, integrated robotic and climatic control designs, and nutritional/medical enhancements.

(4) Ground and air robotic platforms will be used to reduce the load of the soldier, relieving his burden of noncombat essential equipment.

(5) Technology needs include light weight armor, power packs, and robotic load carrying capability.

f. Logistics.

(1) Capabilities required include total logistic distribution, logistic C4, soldier sustainment, system sustainment, interactive logistics planning and management and use of non-military augmentees.

(2) Improved reliability, availability, and maintainability of equipment will provide a higher tempo of operation over extended distances and time periods.

(3) Improved component failure prediction and artificial intelligence applications allow replacement of critical components before component failure and/or the commencement of tactical operations.

(4) Forward battle damage assessment, improved repair technologies, and integrated maintenance training are required.

Chapter 4 Implications

4-1. Doctrine.

a. Warfighting doctrine must address the appropriate tradeoff among low observables, direct and indirect fire systems, and closing with the enemy.

b. The pace of early entry operations, the level of conflict, and the type of follow-on and force packages will place constraints on the tactical commander's battle space management. Given the direction of the early entry concept, doctrine must address the assets task force commanders require to apply combat power or influence their battle space in any given situation.

c. Assuming that the lodgment is the most vulnerable phase of early entry, doctrine must close the window of vulnerability.

d. Doctrine must address the application of combat power in terms of what close combat offers that deep fires do not.

e. Doctrine must include or delineate the degree to which and in what way deep operations can create conditions to facilitate the close battle.

f. The exploitation of the advantages gained in the deep fight must also be addressed by doctrine.

4-2. Training.

a. Training and leader development will be key to maintaining combat ready soldiers and units. Success on the battlefield will require the interrelated and supporting individual, institutional, and unit training pillars adapting to the doctrine, organizational, and materiel systems that are emerging.

b. Soldiers that fight in dismounted battle space must receive initial training that ensures physical readiness, develops the right attitudes, and provides the skills needed to fight and survive in battle. They must be instilled with the soldier values, loyalty, discipline, toughness, courage, and esprit. The soldiers must perform to standard under adverse conditions both day and night, with basic equipment and advanced systems. Training must be hands-on and live fire whenever possible.

c. Materials, programs, training aids, devices, simulators, and simulations (TADSS) must be developed to properly train the force. The training institutions must ensure the development of the right TADSS and strategies to use them in conjunction with live fire and field training exercises. The upgrade of the combat training centers (CTCs) with new systems to maintain an environment close to actual combat is essential for force readiness.

d. All training comes together in the unit. Unit training must be focused on the mission essential task list (METL) and sound use of resources available, the simulations and simulators, field training, live fire, and CTC opportunities.

4-3. Leader development.

a. Training institutions will be required to develop materials and programs of instruction that produce leaders who are skilled warfighters and trainers. They must know their weapons and equipment and the ways to train units and soldiers to employ and maintain them. They must learn to operate within the complex world of combined arms and joint forces.

b. The individual soldier and leader will have an increased burden to remain physically, mentally, and professionally fit. Leaders will be called on to use computers, simulations, and the real environment to train themselves and their subordinates. Each assignment must be a leader development experience, and each superior a teacher and mentor.

4-4. Organization.

a. Versatile organizations must be designed to optimize the mix between direct and indirect fire capabilities.

b. Organizational designs must be tailored to exploit enhanced weapon system and target acquisition capabilities.

c. The role and organization of combined arms brigade/task force organization and below must be considered. These task forces constitute both the first units on the ground during early entry operations as well as follow-on forces during a force projection mission.

4-5. Materiel.

a. The Army must continue to exploit technology to design and field more capable weapons and support systems. Forces operating in dismounted battle space must have an overmatching lethality when faced with an armored threat. The ability to mass effects, but not forces, is an essential part of the dismounted battle space concept. Materiel systems must provide this capability through technology insertions as modifications or improvements and new weapons systems, target acquisition systems, and communications systems. Survivability of the individual soldier is essential. Specific requirements for dismounted battle space are the following:

(1) Optimize night-fighting capability of combined arms forces including combat support and combat service support elements.

(2) Improve target acquisition capabilities to provide near real time sensor to shooter linkages using digital communication, which provides voice, data, and video capability. Required system linkages are between brigade and below sensor and weapons systems as well as sensors and weapons at echelons above brigade including national, joint, and coalition systems.

(3) Enhance the lethality of dismounted forces with improvements to indirect and direct fire weapons to allow the task force commander to mass fires while maintaining force dispersion. Dismounted forces must

also have the capability to overmatch threat weapons in small arms, anti-armor, and directed energy.

(4) Improve survivability for the individual soldier through countermeasures, miniature monitoring devices, new lighter weight materials, signature reduction technology, and improve fratricide prevention.

(5) Develop biological agent detection capability.

(6) Develop identification friend or foe (IFF)/combat identification on light forces which is integrated with Armor forces.

(7) Increase the day/night command, control, and communication ability to collect, analyze, and disseminate critical information real/near real time to enhance the commanders' capability to control forces operating in dismounted battle space.

(8) Develop and/or enhance and field defensive and offensive systems in the directed energy arena.

4-6. Soldier. The soldier must be trained, equipped, led, organized and use doctrine which provides overmatching capability against future threats.

Ultimately, the individual soldier's equipment will be integrated into a fully modular system designed to increase his overall effectiveness on the battlefield. Future combat soldiers will be able to defeat the enemy at greater engagement ranges, communicate at greater distances, survive extremely lethal threats and environments, be more effectively sustained, and be more effectively supported on deployment. Soldiers must be prepared to deploy on short notice to any region of the world to defeat any threat in support of National Military Strategy.

Glossary

Section I Abbreviations

C4	command, control, communications, and computers
CINC	Commander in Chief
CTC	Combat Training Centers
IFF	identification, friend or foe
METL	mission essential task list
METT-T	mission, enemy, terrain, troops, and time available
RSTA	reconnaissance, surveillance, and target acquisition
TADSS	training aides, devices, simulators, and simulations

Section II Terms

Battle space

That volume of the battlefield determined by the maximum capabilities of a unit to acquire and engage the enemy with both organic and supporting systems. It is also an important mental construct that involves the ability to visualize enemy and friendly activity. It embraces a holistic view of the entire range of possible conditions and available options that impact on the commander's ability to successfully execute his mission.

Combat identification

The process of determining enemy from friendly forces. Includes both situational awareness and identification friend or foe capability.

Direct fire

Gunfire delivered on a target, using the target itself as a point of reference for either the gun or the director.

Directed energy

A highly directional beam of concentrated electromagnetic energy. The types of directed energy systems with the highest potential for military applications fall into three categories: laser, radio frequency, and particle beams.

Dismounted battle space

The three-dimensional geographic space in which light, airborne, air assault, special operations, and dismounted elements of armored task forces operate. It is dynamic in that it also includes the dimension of time. It also defines the commander's concept of using the assigned area of operation to every possible advantage.

Enhanced Concepts Based Requirements System
The system TRADOC uses to identify requirements and budget and prioritize programs for development of doctrine, training, leader development, organizations and materiel focused on soldier.

Indirect fire

Fire delivered on a target that is not itself used as a point of aim for the weapons or the director. Includes artillery, mortars, rockets, and missiles.

Operations other than war

Military activities during peacetime and conflict that do not necessarily involve armed clashes between two organized forces.

Sensors

The manned or unmanned components of target acquisition or intelligence systems which detect, and may indicate, and/or record objects and activities.

Sensor to shooter linkage

The mechanism(s) by which data gained by sensors is processed to identify targets and the targets are passed to a weapon system for engagement.

Situational awareness

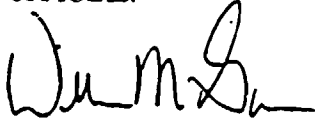
The ability to have accurate knowledge of your own and other friendly element locations, enemy locations and neutral and noncombatant locations.

Split based

The ability to conduct operations (such as combat service support or intelligence) from out of theater fixed facilities. Accomplished through near real time connectivity to a small team in theater in support of deployed forces.

FOR THE COMMANDER:

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Deputy Chief of Staff
for Information Management

JOHN P. HERRLING
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